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WASHINGTON LETTER.

WASHINGTON, MARCH 20, 1897.

FOREST RESERVATIONS.—On the 165th anniversary of the birth of Washington (February 22, 1897), President Cleveland, under the authority of the Act of March 3, 1891, proclaimed 13 forest reservations having an aggregate area of about 21,000,000 acres. These reservations are situated within the States of Washington, California, Idaho, Montana, Utah, Wyoming, and South Dakota. This action was taken upon the recommendation, approved by the Secretary of the Interior, of a Committee of the National Academy of Sciences. This Committee was appointed at the instance of the Secretary and consisted of Prof. Charles S. Sargent, Director of the Arnold Arboretum at Harvard University; Gen. Henry L. Abbott, United States Engineer Corps; Prof. Wm. H. Brewer, of Yale University; Mr. Arnold Hague, of the United States Geological Survey; Mr. Alexander Agassiz, and Mr. Gifford Pinchot; the president of the National Academy, Prof. Wolcott Gibbs, being *ex-officio* a member. This commission began its work on July 2, 1896, and spent about three months of travel and study, without compensation, in the examination of the public forests of the country, in order to render opinions upon questions asked by the Secretary of the Interior, as noted in the BULLETIN, Vol. XXVIII, p. 180. Their recommendations to the Secretary of the Interior made on February 1, 1897, were promptly followed by this action of the President.

The publication of the proclamation was followed by energetic protests by the senators and representatives from the States in which these reservations are located. They insisted that such wholesale withdrawals of the public lands was a step of too great public importance to be taken without general notice, and especially without consultation with themselves as representatives of the West. They urged that such action should not have been taken until a code of laws governing forest reservations had been prepared and put into operation, and that great injury was done to the development of their States by thus removing at once large areas from which timber is being taken and upon which there may be discovered deposits of mineral wealth.

An attempt was made to nullify the President's action by insert-

ing in the Sundry Civil Bill a clause restoring these recent reservations to entry and settlement under the public land laws as if the Executive proclamation had not been made. This amendment was not concurred in by the House of Representatives, and the suggestion was made that instead of invalidating the Executive order steps should be taken at once to provide suitable legislation for the proper use of the reservations, the cutting of timber, the prospecting for minerals, and the rectifying of the boundaries by which agricultural and other land valuable for other purposes than tree growth might be excluded.

Attention was called to the fact that bills for this purpose had already passed the House and one of these had been favorably considered by the Senate at a previous session. It was urged that a backward step should not be taken, but rather that the legislation asked for during the past quarter of a century by various Commissioners of the General Land Office, and by Secretaries of the Interior, be at length enacted, having been thoroughly discussed in both House and Senate. In the final agreement, however, between the conferees of both houses, the matter was stricken out, leaving the subject of forest reservations as one of the first items of general importance to be taken up by the 55th Congress.

The conditions as they now exist are intolerable. The existing forest reservations, with those proclaimed by President Harrison, aggregate an area of over 38,000,000 acres, including within their borders some of the most valuable timber lands belonging to the Government. The proclamation removes the land upon which title has not already been acquired from the list of vacant areas, not permitting timber to be cut, nor mining to be carried on, nor any use or occupancy of the ground whatever. By lack of legislation, however, no protection is afforded; fires may start and sweep over vast areas, destroying the timber, and no finger can be raised to prevent its spread; the settler may need timber for his home or fence posts, but he cannot legally touch a stick, although there may be none other to be had within a thousand miles; valuable mines employing large bodies of men may be within or adjacent to the reservations, and not a mining prop nor piece of firewood can lawfully be used. The farmer, the miner, and in fact every citizen living within or near a forest reservation, is forced by necessity to become a law-breaker, either directly or indirectly.

With the recent great extension of the forest reserves, one of two things must probably happen: either the whole idea must be abandoned and the reservations restored to the vacant public

domain, or Congress must provide laws by which suitable rules and regulations can be promulgated for the proper utilization of the resources contained within these areas.

The following table shows the relative extent of these forest reservations by political divisions. In the column next to that giving the name of the State or Territory is the aggregate area, and to the right of this is the percentage which this bears to the whole area of the State or Territory. By examining this, it is to be noted that the largest percentage (18.94) is in Washington, where the forest reservations include over one-sixth of the land surface of the State. In most of the other States the reserved areas are from about 2 to 7 per cent. In the next column to the right is shown the relation which the reserved area bears to the total extent of vacant public land in each State. In Washington the reservations include nearly one-third of the whole area of land otherwise open to entry and settlement, and in Oregon and California over one-tenth of the vacant land; in the other States the ratio is less than 8 per cent. In the column at the extreme right a comparison is made between the estimated area of forest and woodland and the amount reserved. In South Dakota practically all of the wooded area of the State has been covered; in Washington one-fourth; in Wyoming less than a fifth, and in California, Montana, Oregon and Colorado from 12 to 15 per cent.

EXTENT OF FOREST RESERVATIONS.

STATE OR TERRITORY.	AREA IN ACRES.	PER CENT. OF WHOLE.	PER CENT. OF AREA VACANT.	PER CENT. OF FOREST AND WOODLAND.
Arizona.....	1,851,520	2.56	2.67	9.90
California.....	6,867,200	6.87	10.76	15.26
Colorado.....	3,103,360	4.67	6.58	12.61
Idaho.....	4,008,960	7.43	7.96	12.37
Montana.....	4,999,680	5.37	6.04	14.04
New Mexico.....	311,040	0.40	0.52	0.96
Oregon.....	4,653,440	7.68	10.80	12.57
South Dakota.....	967,680	1.96	3.66	96.76
Utah.....	875,520	1.66	1.83	3.94
Washington.....	8,110,080	18.94	31.10	25.00
Wyoming.....	3,196,160	5.11	5.44	18.26

From an examination of the above table it is seen that the forest reservations, although not relatively large, are important, and are

worthy of careful consideration. Although their area, in comparison with the total amount of forest and woodland, is in many cases small, yet the fact should be borne in mind that they include some of the most important timber lands and have been selected with especial reference to beneficial influence upon the water supply of the country.

ARIZONA.—The results of recent surveys by Mr. Arthur P. Davis in southern Arizona, along the Gila River and in the vicinity of Superstition Mountains, have been made public in a Senate document (54th Cong., 2d Session, Sen. Doc. No. 27). This survey and examination was undertaken for the purpose, primarily, of ascertaining the available sources of water supply for the Pima and Maricopa Indians, living upon the reservation near the junction of the Gila and Salt rivers. A thorough exploration was made for reservoir sites, and two of these were carefully surveyed. At the same time detailed topographic maps were made of portions of the catchment basins and of the areas over which some of the possible canal lines might be built.

The Indians upon this reservation, numbering about 5,000, have always been friendly to the whites, welcoming them in the pioneer days and joining with them in repelling the attacks of the Apaches—the scourge of this southwestern country. In those early days there was ample water supply and the plains Indians cultivated by irrigation small farms along the rivers, and later sold grain and hay to the Government and to the overland emigrants. As the opportunities for hunting were reduced by the increase of the whites and by restriction to the reservation limits, more and more attention was given to agriculture, the tribes being wholly self-supporting. Agriculture on the reservation, however, is only possible by the employment of water from the Gila River. This water supply the Government has allowed to be diminished, and finally almost entirely taken away, by disposing of the fertile desert lands higher up—areas which also are dependent for their value upon the waters of the streams. Thus, while one Bureau has been endeavoring to educate and to improve the condition of the tribes, another Bureau has, through its operations, brought them down from self-supporting farmers almost to the condition of paupers, dependent for their food upon the issue of rations.

The investigation made by Mr. Davis shows that flood waters may be impounded at several localities and brought to the reservation at moderate cost per acre of land benefited. It is also shown

that there is probably underground a sufficient supply, and that this can be pumped to the surface, although the cost per acre would be largely in excess of that from the stored water. The survey brings out clearly the fact that the development of the fertile, semi-tropic lands of southern Arizona is dependent upon the storage of water in the various localities, suitable for the construction of reservoirs.

FLORIDA.—The recent exploration conducted by Mr. Frank Hamilton Cushing on the west coast of southern Florida, in the vicinity of Ten Thousand Islands, have yielded results of considerable geographical interest. The work has been conducted under the joint auspices of the Bureau of American Anthropology and of the American Archeological Institute. Mr. Cushing was accompanied in his work by Mr. Wells M. Sawyer, as artist. A general exploration of the islands and reefs in the vicinity was made and over a hundred mounds were examined and mapped in part. These mounds, built to heights of 60 feet and upwards, were found to have a more or less rectangular outline, and in general were in the form of flat-topped pyramids. They are surrounded by terraces or broad benches, and from them lead long roadways which are extended out into the water by parallel lines or banks of narrow canals. All of these artificial works are thickly covered with large conch-shells, some of these still remaining in position in nearly vertical walls, those of uniform size having been carefully selected and placed in parallel rows. The causeways, or roads, leading up to the mounds were found by excavation in places to have been made of huge clam-shells laid with the convex surface up, forming thus what would at first appear to be a cobblestone pavement.

Excavations in the marshes were conducted with the result of finding in one locality a particularly fine collection of implements and household ware, all made of wood, bone or shell. Only one or two pieces of stone were found, the principal one of these being a very carefully wrought ear ornament, or hanger. The most noticeable objects were the ceremonial masks carved in imitation of the human face and of the heads of animals. On these there is yet to be seen the traces of paints of various colors. Fragments of war clubs and spears were also obtained, these showing plainly that they had once been armed with sharks' teeth, firmly held in place by thongs, or leather cords. Saws, or implements for cutting the shells, were also discovered, these consisting of a wooden strip in which sharks' teeth were used for the cutting edge.

A study of the conditions under which these fragments were found indicates that they are undoubtedly pre-Columbian and possibly of even far greater antiquity, since there must have been considerable changes in the coast line and a union of outlying islands with the main land. The character of the ornamentation indicates also that the people who dwelt on these islands were closely allied to the natives of the northern part of the Continent of South America, and to those of Yucatan. Certain devices also are similar to those upon ornaments found in mounds in Georgia. One apparently significant fact is that although spears and throwing-sticks were found, there is nothing to indicate that these people used the bow and arrow. The mounds were probably occupied by the temples or public buildings of the tribe, while the houses were possibly constructed upon piles over the water or marsh land, the causeways apparently connecting these groups of buildings.

EXPLORATIONS IN BABYLONIA.—Dr. John H. Haynes, the Director in Charge of the recent explorations in the vicinity of Bagdad, has returned to Washington, where he is preparing for publication the narrative of his work, carried on under the auspices of the University of Pennsylvania. This expedition is the third of a series, the first being conducted in the winter of 1888-89 under the direction of Rev. Dr. John P. Peters. With him were associated Dr. H. V. Hilprecht, Dr. R. F. Harper, Dr. J. H. Haynes and others, the principal results being the survey of the ruins of Nippur and surrounding areas, and the examination of special points by means of trial trenches. The second campaign, that of 1889-90, was also under the direction of Dr. J. P. Peters. In this the examination of the ruins was continued by means of trenches. About 8,000 cuneiform tablets and fragments, besides numerous inscribed pieces of vases and other objects, were brought away. The third, or recent campaign, is the most notable, extending from April, 1893, to February, 1896, being interrupted only during the months of April and May, 1894. Systematic excavations were made, using a force of, on an average, from 50 to 60 Arabs. An examination was made of the lowest strata of the Temple at Nippur, the vast ruins of the Temple of Bel and other buildings being systematically uncovered, measured, photographed and mapped.

The extraordinary energy, perseverance and devotion of Dr. Haynes are shown by the large amount of work accomplished in the face of almost insurmountable difficulties. From a geographical standpoint one of the most important results has been the

demonstration that it is practicable for a European to reside and work throughout the summer in this country, which resembles in many ways the deserts of the southwestern part of the United States. The comparison is further strengthened by the existence there of the most treacherous and brutal of the Arabs, comparable to the Apaches, who within comparatively few years swept down from their mountain homes upon the traveller crossing the southern deserts. In spite of the extreme heat, reaching at times 120 degrees F. in the shade, Dr. Haynes continued his work, living within a small fortified camp and being for the greater part of the time without a single trustworthy companion other than his Turkish Commissioner. His position was rendered especially precarious toward the last by the rising wave of religious fanaticism, traversing the Turkish Empire, intensifying the belief, lurking in the minds of even his own laborers, that no higher service could be rendered the Deity than by killing the only infidel Christian within reach. His final journey out of the country from Bagdad east to the Mediterranean was one full of danger, on account of the excited and restless religious fervor of the Mohammedan tribes.

The innumerable ruins in this country, some of them dating more than 4,000 years B. C., testify to the extraordinary fertility of this valley, the "Garden of Eden," under irrigation, and illustrate what may be accomplished in the southwestern parts of our own country near Colorado River, where the climate and soil are similar. At the same time the deserted character of the country testifies to the ruin and desolation wrought by bad government and maladministration of the water system—the life blood of the country. In one case it is reported that the ruins of a modern town were crossed, and on inquiry it was learned that until recently this had been a fairly prosperous village, but that the water taxes had been steadily increased and finally doubled, so that the inhabitants could no longer pay them. The Turkish Government accordingly, not being able to obtain the desired sums, cut off the water supply, and as a result the inhabitants either starved or joined the wandering bands which infest the country.

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